TOWARD GROWTH MANAGEMENT POLICY FOR TOKYO

Uni-polarization Phenomena in Tokyo and Growth Management

Yorifusa Ishida*

1. Will 1973 Come Again?

1-1. Three big events occurred in 1973

In the spring of 1973 three big events or troubles took place in the Tokyo Metropolitan Region (in this paper refers to South Kanto; Tokyo, Kanagawa, Saitama and Chiba), arising from such factors as the concentration of population, industry and urban functions in Tokyo, the increase of high-rise buildings and overcrowded areas in Tokyo and the huge expansion of built up area in the Tokyo Metropolitan Region. These three events are referred to as the ‘Ageo Riot’, the ‘Rubbish War’ and the direct call for Ordinance on Access to Sunlitght.

I would like to begin my discussion of the problem of excessive concentration or uni-polarization phenomena in Tokyo by referring to events which took place eighteen years ago. First of all let me describe briefly the three big events.

The ‘Ageo Riot’ took place late on night at the yard of Ageo Station on the Takasaki Line when commuters, angered by delayed trains and inadequate responses by station personnel, smashed train cars and station facilities and started a fire. It is actually symbolic that the trouble took place at Ageo Station. At that time, frequent commuter service in the direction of the Tohoku/Takasaki Line were made as far as Omiya Station, the final destination on the Keihin-Tohoku Commuter Line. Going further out of Omiya, the frequency of train runs dropped sharply. On the other hand, from the latter half of the 1960s, rising

*Director of the Center for Urban Studies
land prices in Tokyo Metropolitan Region forced the Japan Housing Corporation (now the Housing and Urban Development Corporation) and private developers to develop their housing estates in areas beyond the distance limit of commuter travel. Thus Ageo, which is two stops beyond Omiya Station, became the focal point of contradiction in residential developments without any means of commuter transportation. The commuters who experienced daily frustrations resulting from this contradiction were thus incited to riot at Ageo by merely a slight provocation. The 'Ageo Riot' is one manifestation of the contradictions attendant upon the huge growth and outward expansion of urbanized area in the Tokyo Metropolitan Region.

The 'Rubbish War' refers to an incident in which the residents of Koto Ward, led by the ward chief and the members of ward assembly, forcibly blocked the transportation of rubbish from Suginami Ward to 'Yume no shima (literally means dream island)' rubbish disposal site in Koto Ward. The residents of Suginami Ward had been opposing to construction of a refuse incineration plant. At the time (and now a day as well) large volumes of rubbish were disposed of by burial at land reclamation sites along Tokyo Bay because of shortage of incineration plants. Koto Ward, which has disposal sites along the sea front and in the offshore, thus became the focal point of high concentration of refuse pollution; for example, concentrated travel by garbage trucks and swarms of flies breeding at refuse burial sites. The 'Rubbish War' is one manifestation of the contradictions resulting from the excessive concentration of population and industry in Tokyo, delays in the establishment of urban facilities, and massive consumption coming in the wake of high economic growth.

As population and urban functions became more and more concentrated in Tokyo in the course of high economic growth, construction of high-rise buildings stepped up dramatically in the latter half of the 1960s. The campaign involving a 'Direct Call for Ordinance on Access to Sunlight' arose amid grave concern among citizens about the obstruction to sunlight by high-rise buildings. A group of citizens drafted a bill which would make consent by neighbouring residents mandatory for building certification of high-rise buildings, and this draft was submitted as direct proposal to the Tokyo Metropolitan Assembly. After four years of consecutive deliberations, this draft bill was eventually abolished, but it served as a stimulus to the creation of restrictive provisions on sun shadow in the Building Standards Act. This event thus represents at least one victory by citizen’s movement in its response to the aggravation of urban problems caused by further concentration in Tokyo.

We have thus seen that each of the three events occurring in the spring of 1973 came as a result of contradictions brought about by excessive concentration of population, industry and urban functions in Tokyo, by more and more high-rise buildings and high density built up areas, and by enormous expansion of Tokyo, all of which came in the wake of high economic growth in the 1960s.

1 - 2. Interim examination of the New Comprehensive National Development Plan

In the fall of 1973, a report on interim examination of the new Comprehensive National Development Plan (new CNDP) covering large city problems was issued by the Economic
Planning Agency (EPA). This is one of the interim results of work undertaken as a basic endeavor to create a framework to the third CNDP. In this report, the future population of the Tokyo Metropolitan Region in 1985 was estimated as 38.1 million, 33.0 million and 28.7 million people each by three stochastic methods; trend type estimation, trend slowdown type estimation and dispersion (especially younger age strata) type estimation, accordingly. For each estimation, the urban problems of the Tokyo Metropolitan Region are then examined. Inspection and analysis were undertaken with a cautious, impartial attitude rarely found in this type of report by the central government. Difficult problems currently faced by the gigantic metropolis of Tokyo, or problems to be confronted in the near future, including those pertaining to land, housing, commuter transportation, water supply and sewerage, the environment, waste treatment, and disaster prevention, were subjected to multilateral analysis in search of the limits for large metropolises. In conclusion, the report pointed out that even if population of the Tokyo Metropolitan Region could control to approximately 28.7 million, numerous difficult problems pertaining to such things as land and housing, electrical power supply, water resources, commuter traffic and transportation, air pollution and waste disposal, will inevitably emerge. This population was the lowest figure estimated under the condition of adopting policy for forceful dispersion of population centering on younger ages from Tokyo, or policy of 'closed population' which inhibits all inflow of population into Tokyo Metropolitan Region from outlying region and other rural regions.

This examination served as the foundation for launching by the third CNDP of a concept of 'Koiki Seikatsu-ken' (regional living spheres) with emphasis on local districts, as well as the stimulus for adoption of a policy for restraint of concentration in the Tokyo Metropolitan Region.

1-3. How were the problems of 1973 overcome?

In fact, however, the population of the Tokyo Metropolitan Region (Tokyo, Kanagawa, Saitama and Chiba) in 1985 reached 30.27 million, and ever since the Tokyo Metropolitan Region has been expanding as a center of world information and finance so that the concentration of population and urban functions in the city has continued. Indeed, the population has been held down so as to be lower than that of 'trend type' or 'trend slowdown type' estimation but it far exceeds that of 'closed area type' estimation. And looking at the subsequent increase in population, the growth of population in the Tokyo Metropolitan Region between 1985 and 1990 reaches 5.03%, and the population is close to that of a 'trend slowdown type' estimated population. This rate of increase far exceeds the rates for Greater Osaka, at 1.28%, and for the nation as a whole, at 2.12%.

Have the problems of 1973 really been resolved?

Looked at over a very short term, the factors which made it possible to avoid the problems of 1973 can be regarded as three conditions which materialized throughout the 1970s. The first comes from citizens' movements, mostly on environmental problems, which became vigorous from the second half of the 1960s, and from policies of reformist self-government
bodies, which increased rapidly on the basis of these movements. This also had a definite impact on national policy.

The second originates from the fact that, after the oil crisis of 1973, policy for high economic growth was no longer possible; it had to be replaced by a policy of stable growth, and as a consequence, certain revisions were also added to urban policies. Events such as the establishment of the National Land Use Planning Act of 1974 can certainly be viewed as a manifestation of such a process. In terms of urban planning policy, already from the second half of the 1960s severe regulation type policies began to be adopted, which were clearly different from conventional approaches. Control against urban sprawl, subdividing of zoning and intensifying of regulation, for instance, were inaugurated by such means as enforcement of the Urban Planning Act of 1968 and the 1970's overall revision of 'Shudan-Kitei (planning regulations)' of Building Standard Act.

The third factor comes from attempts to increase, correspond to increasing demand, supplies of commuter transportation capacity, electric power, and natural water resources etc, through bold public investment. These measures fell far short of solving the problems but they did prevent the problems from exploding into incidents or riots.

2. Ten-Year Cycle of Growth/Concentration and Control/Dispersion Argument

Tokyo was dealt a devastating blow by the Second World War, and its population temporarily fell to as low as 3 million people. Later, however, its population was quickly recovered the prewar level, and thereafter, it has continually expanded; urban functions and urban activities have continued to develop and built up area has continued to expand.

Various arguments have been made concerning policy for responding to these developments, but in general there are two predominant standpoints. One argument is that although the concentration on Tokyo and the growth of Tokyo should not be left totally to take its own course, they should be permitted for the most part. The other argument is that the growth or massive expansion of Tokyo should be controlled and that population and urban functions should be dispersed. These arguments come to fore alternately in cycle of about ten years [Ishizuka & Ishida, 1988].

(1) Immediately after the Second World War and during in the 1950s, that is the period from the post war urban rehabilitation programme to the first National Capital Region Plan (first NCRP), restoration and growth of population and urban functions in Tokyo continued due to such factors as favorable business climate spurred by post war rehabilitation and the Korean War. In terms of policy, the basic themes were curtailment of large cities and dispersion to rural districts or systematic control of the same through metropolitan regional planning.

(2) The 1960s are characterized by high economic growth and rapid expansion of Tokyo.
"Tokyo Plan 1960" published at this time by famous architect Kenzou TANGE and his associates, affirmed the existence of Tokyo as a city of ten million people and proposed the construction of magnificent 'Kaijo Toshi (marine metropolis)' in the huge expanse of Tokyo Bay in answer to the Tokyo problem which, he believed, originated from delays in the improvement of facilities for growing Tokyo. This plan is indeed symbolic of the trend at that time.

(3) In 1970s, contradictions in the massive urban sprawl of Tokyo, as mentioned previously, erupted, and the oil crisis occurred, so that again the curtailment of large urban growth became a problem. Moreover, environmental issues as exemplified by photochemical smog and the question of sunlight exposure, came to serve as a framework for considering problems in general, and in this respect, the initiatives by reformist self-government bodies cannot be overlooked.

(4) In the 1980s, as distinguished by policy of then Prime Minister Nakasone in 1982–3, a course, calling for easement of regulations on building and urban planning for the purpose of intensive utilization of urban land and introducing private initiative in conjunction with a philosophy of small government and administrative renovations, was adopted. This can be seen as a manifestation of Japan in a world wide tendency of new conservatism and new laissez faire as exemplified by the policy of the Thatcher Administration in United Kingdom. As a result, in the second half of the 1980s, construction of office buildings, especially in Tokyo, accelerated, and in taking advantage of this opportunity, real estate investments also became brisk. This was the decade of so-called "bubble economy" and skyrocketing land prices.

(5) In the 1990s, the evils brought about by the growth of large cities in the 1980s became more and more apparent. Conditions came to resemble those at the start of the 1970s, and methods for overcoming these conditions have not always been clearly evident. It is the purpose of this report to help further clarify such methods.

3. Uni-polarization Phenomena in Tokyo and the Current Status Thereof

3-1. Meaning of uni-polarization

There is much talk about the evils caused by uni-polarization phenomena or over concentration in Tokyo, but it is not always very clear what this “uni-polarization” actually means. A number of “Plans” have been drafted to cover Tokyo, and in each of them the problem of uni-polarization is defined as given bellow, yet each of these definitions is slightly different from the others, and at times they are clearly different.

(1) Comprehensive National Development Plan (CNDP): In the CNDP of the central government (at present the fourth CNDP), the problem of uni-polarization refers to excessive concentration
of population and industry in the Tokyo Metropolitan Region (Tokyo, Kanagawa, Saitama and Chiba).

(2) National Capital Region Plan (NCRP): This plan is also prepared by the central government, but the problem of uni-polarization as taken up in the fourth NCRP differs slightly from the problem as defined in the fourth CNDP, pertains to the concentration of business functions in Tokyo Wards Area.

(3) Long Term Administration Plan of Tokyo Metropolitan Government (TMG): The Long Term Administration Plan compiled by the TMG treats the problem of uni-polarization as the concentration of high-level business functions in the CBD of Tokyo, especially ‘Marunouchi’, ‘Kasumigaseki’ and ‘Yuraku-cho’.

3-2. Persisting concentration in each levels
The trend towards concentration in each of above mentioned senses has continued, and the pace, which once slowdowned in the 1970s, has accelerated since the 1980s. Characteristic numerical values can be given as follows [Table 1].

(1) Tokyo Metropolitan Region: The population of the Tokyo Metropolitan Region in 1990 was about 31.8 million. The growth of population from 1985 to 1990 reached 5.03%.

(2) Tokyo Wards Area: Office floor space increased 1.8 times from 1975 to 1988. Working

| Table – 1 Concentration of Population, Employment and Office Floor Space (Population & Employment 1,000 persons) |
|-------------------------------------------------|-----|-----|-----|-----|
| **Tokyo + 3 Pref.**                              | 1975 | 1980 | 1985 | 1990 |
| Population                                       | 27,040 | 28,699 | 30,273 | 31,796 |
| **Office sp.**                                   | 2518 ha | 3324 ha | 3924 ha | 4549 ha |
| **Employment**                                   | 6118 | 6234 | 6681 | 7050 |
| **Population**                                   | 8647 | 8352 | 8355 | 8337 |
| **Tokyo 23 Wards Area**                          | 8163 ha |
| **Office sp.**                                   | 1611 ha | 2000 ha | 2324 ha | 2640 ha |
| **Employment**                                   | 1900 | 1959 | 2202 |
| **Population**                                   | 361 | 339 | 325 | 289 |
| **Inner 3 Wards**                                | 266 |
population stood at 6.11 million in 1975, at 6.68 million in 1985, and at 7.05 million in 1990. The rate of increase was 1.09 times between 1975 and 1985, and 1.06 times between 1985 and 1990. The residential population dropped from 8.65 million in 1975 to 8.20 million in 1990.

(3) Tokyo three Central Wards (Tokyo's CBD): Office floor space increased 1.6 times from 1,611 ha in 1975 to 2,640 ha in 1988. Working population increased 1.4 times from 1.9 million in 1975 to 2.2 million in 1985. Residential population dropped sharply from 545,000 in 1960 to 361,000 in 1975 and to 289,000 in 1989. The residential population in 1989 was 80% of the same population in 1975 and only 53% of the same population in 1960.

4. Factors Behind Uni-polarization Phenomena in Tokyo

4-1. Uni-polarization in Tokyo does not result from absence of planning

From the time of the war damage rehabilitation programme up to the presentday fourth NCRP, plans for the Tokyo Metropolitan Region have been drafted at least five times, and portions thereof have been implemented while other portion have been abandoned. For example, the first NCRP (1958) was an outstanding plan said to be based on the Greater London Plan (1944), but the Kinko-chitai (greenbelt) Plan was not carried out, and reclamation in the Tokyo Bay area was implemented much more than planned. The fact that a greenbelt was not realized made it possible for urban areas to expand freely, and after its reclamation, Tokyo Bay area initially served as areas for distribution and industrial functions, and at present, locations for various new functions such as business for international information exchange would be established there. This means that the aforementioned plans became factors promoting further concentration on Tokyo.

4-2. Why the "limits" of Tokyo's expansion were surpassed

Why were the limits as identified in interim inspection of the new CNDP by the Economic Planning Agency in 1973, surpassed?

The answer can be given in two aspects. (1) On the one hand, the restructuring of the urban structure of Tokyo through extensive public investments from the 1970s through the 1980s and through large-scale conversion of waste and underused land to reusable land was successful in some measure. For example, the commuter transport capacity of one peak hour, at the point of crossing the JR's Yamanote Line, increased over a ten-year period from 1970 to 1980 by 1.33 times for the JR lines and 1.51 times for private and subway lines, so we can see that considerable progress is being made. (2) On the other hand, during this same period no substantial improvement was made on the rate of congestion, and the commuters of Tokyo Metropolitan Region have had to endure the congestion rate of 216.8%. Yet it is precisely because Tokyoite have endured such conditions that the limits of growth could be hardly surpassed.
4-3. Concentration is beneficial to individual enterprises and has been permitted

The extensive public investments referred to above, generated a huge external economy for the corporations located in Tokyo. The reason why corporations continue to concentrate in Tokyo despite skyrocketing land prices and high rents for office space lies in the fact that Tokyo provides the advantages of close concentration, such as face-to-face interaction, but more important than these advantages is the fact that the existence of external economies ultimately made the cost of locating in Tokyo inexpensive. According to estimates by the Committee Investigating the Problem of Concentration in Tokyo, the cost of establishing a company headquarters in other cities as compared to Tokyo is Osaka 1.42 times greater, Sendai 1.74 times greater, and Sapporo 2.68 times greater than in Tokyo [Shuchu-1, 1990]. Nevertheless, this differential is almost totally eliminated when social costs, such as the cost of alleviating commuter congestion and the cost of acquiring residences for employees, are added. In other words, the over concentration on Tokyo has become inevitable because it provides advantageous conditions for individual corporations. It is very important that it has been made inevitable by the present system in which the advantages are not translated into social cost burdens for corporations. The problem is that the "general development benefit" and the "peripheral development benefit" coming with urban growth and development are restored to the land owners including corporations (Ishida, 1990-a).

What is more, corporations in Tokyo are given extremely wide latitude in the use of land. Regulations on the use of land in Tokyo have been lenient from the outset, but with execution of Yoseki-chiku Seido (the floor area ratio zoning) of 1963, an ultrahigh rate of floor area ratio (FAR) at 1000% was stipulated, due to forcible campaign by real estate and construction companies. And from the second half of the 1970s, policies were adopted to facilitate and promote advanced utilization of land. For example, individual regulation easing systems such as Tokutei-Gaiku (special block) system and Sogo-Sekkei (comprehensive design) system were provided. When such policies for promoting high land utilization are adopted, more possibilities benefiting from individual development accrued to land owners.

5. What is the Solution to Uni-polarization

5-1. What is to be solved?

All the various plans for Tokyo at present are aimed at solving the problem of excessive concentration or uni-polarization, but they each seems to attempt to solve different uni-polarization.

Due to the difference of recognizing what aspects of problem as uni-polarization phenomena, (1) excessive concentration of population and industry on the Tokyo Metropolitan Region is taken up by the fourth Comprehensive National Development Plan (fourth CNDP), (2) over concentration of urban activities on Tokyo Wards Area is taken up by the fourth National Capital Region Plan (fourth NCRP) and (3) accumulation of office space in Tokyo's CBD area
is taken up by the second and third Long-Term Administration Plans of TMG.

5-2. What each "resolution policy" will bring

(1) The resolution of uni-polarization on the Tokyo's CBD area proposed under the TMG's Long-Term Administration Plan proposes revitalization of conventional urban subcenters such as Shinjuku, Shibuya, and Ikebukuro, and development of new subcenters within the 23 wards area and construction of water front subcenter as well; in other words, it calls for the realization of multi-center type urban structure. Establishment and development of new centers in Tama district are also proposed, but they have been delayed. Consequently, although a multi-center type structure is targeted, the result has been nothing but promotion of excessive concentration of business functions to the Tokyo Wards Area.

(2) Under the fourth NCRP, the policy for resolving over concentration on Tokyo Wards Area calls for the construction of new business center districts at such places as Yokohama-Kawasaki, Makuhari-Chiba, Omiya-Urawa, Tachikawa-Hachiohji and southern part of Ibaragi Prefecture, and for reorganizing the structure of the Tokyo Metropolitan Region into a so-called 'Koiki-Takaku Toshi Fukugo-tai (extensive multi-core urban composite)' or into a 'Ta-Kaku Ta-keniki (multi-core and multi-sphere area)'. Under this plan some progress has already been made in operations at Makuhari-Chiba, and at Yokohama (MM21 project) - Kawasaki. However, as the functions locating in these districts are not the functions shifted from Tokyo Wards Area but rather new functions which complement the functions of the Tokyo's CBD, such as the international trade fair hall (Messe) of Makuhari and the international conference hall of Yokohama, the new business center districts would serve to strengthen concentration on the Tokyo Metropolitan Region.

(3) Another policy for resolving uni-polarization on the Tokyo Metropolitan Region has been conceived under the fourth CNDP and the Act for Promotion of Multi-polar Dispersion Type Territory. This policy calls for the propagation of regional hub cities and for the establishment of national expressway networks, bullet train routes and telecommunication networks to act as incentives to the dispersion and accumulation of urban functions to these regional centers. However, since these networks have been planned to connect local areas with the Tokyo Metropolitan Region, they have inevitably had the effect of strengthen the position of Tokyo and the policies for dispersion have thus had the converse effect of promoting concentration on Tokyo. The propagation of regional cities in itself has served to expand their positions of dominance with respect to surrounding areas but it has not readily improved their positions with respect to Tokyo. To be sure, the concentration of population on Tokyo slowed down from the 1970s to the start of the 1980s, population increases were observed in regional cities, and hardly any of the prefectures were losing population, but from 1985, a decline of population in the regional districts started up again, and it can be reviewed as evidence that the fourth CNDP did not succeed in alleviating the trend towards uni-polarization in Tokyo.

The various plans for Tokyo have all been aimed at resolving the problem of uni-
polarization, but there is concern about that the cumulative effect from the results of each, as mentioned above, will serve to advance excessive concentration on Tokyo at all levels. That the trend towards uni-polarization has been accelerating since 1985 only adds greater credence to the supposition that this is in fact the case.

6. Moratorium on Tokyo's Growth as the Premise of Growth Management

6-1. Why we must restrain the growth of Tokyo?

Before discussing restriction of the Tokyo's growth, it is essential to high-light the fact that the growth of Tokyo has reached its limit. There are at least three frameworks in which to consider this limit.

(1) Comparison with large cities in various foreign countries:
In comparison with various cities such as New York, London or Paris, data can be cited to show that Tokyo is overcrowded and that accumulation of functions in the city is excessive. The problem is determining the proper ranges of area in each city for comparison and whether data on hand can be used for the purpose. In making comparison with the 23 Wards Area of Tokyo (zone A + B + C = 617 km²), the following areas were used: for New York, City of New York (833 km²); for London, inner London area and 3 peripheral boroughs (593 km²); and for Paris, City of Paris and 3 peripheral prefectures (762 km²). We also defined comparable areas of three metropolis with the Tokyo's central 3 wards (zone A = 42 km²) and the Tokyo's inner 8 wards area (zone A + B = 110 km²). [Fig. 1]

Looking at residential population density (1000 persons/km²) of zone A + B + C, the rate for Tokyo is extremely high, at 13.23, in comparison to New York (8.82), London (6.39) or Paris (8.04). What is more, the residential population of Tokyo in the central area (zone A) and in the inner area (zone B) drops sharply and the population density is quite low in comparison with other cities. Hence in the peripheral area of 23 wards (zone C), the gap in residential density is further enlarged. [Fig. 2]

Concerning working population density (1000 persons/km²), in comparison with New York (4.99), London (4.77) or Paris (4.51), the density of Tokyo 23 Wards Area (10.82) is more than twice that of these other cities. In term of cumulative office floor space, Tokyo has a huge accumulation of floor space in comparison to these other cities. [Fig. 3]

More careful examination must be made of the significance of these figures, but at least the following conclusion can be drawn. Politician's argument insisting that land utilization of Japanese cities is very much low in comparison to western cities have no basis. The argument often based simply on the appearance of cities in Japan, for instance, on the fact that the average number of stories in Tokyo is no more than three.

(2) In the light of planned limits:
This approach is based on the supposition that deviations from the plan (in particular,
excursions beyond the planned limits) lead to evils. This is effective in cases of clear planning, especially when concentration of population and urban functions and the conditions in support thereof have been clarified. In the case of Tokyo, studies on the relationship between generated traffic volume and gross building floor space, which were made in the early years of 1960s when Yoseki-chiku Seido (the floor area ratio zoning system) was introduced, are highly suggestive.

These studies can be summarized as follows. From an investigation of 900 ha at area of the Tokyo’s CBD (311 ha of which is for road space and 589 ha for building site), the following is discovered. *(a) Urban traffic volume has already reached its limit, and even if all the planned roads scheduled for improvement are improved and all the urban expressways are constructed as scheduled, the expected road traffic capacity in 1985 would be 1.8 times at the most.*
Fig. 2 Density of Residential and Employment Population
Ishida: Toward Growth Management Policy For Tokyo

Fig. 3 Stock of Office Floor Space (ha)

Table 2. Designated Areas by FRA Zoning Classification (Tokyo Wards Area)

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Fig - 4 Increase of Floor Space, Road and Numbers of Car

(b) Even if plans to improve commuter and subway lines have been implemented, the number of commuters during rush hours in 1985, at a maximum congestion capacity of 200%, would be no more than about 1.7 to 1.8 times greater than at that time. (c) Given this fact, and if the limit of gross building floor space in 1985 is to be the same as the expected increase rate of transportation capacity, i.e. 1.8 times greater than that of 1,380 ha in 1960, it would amount to 2,480 ha, and the FAR would be at a limit of approximately 450%.

In the investigations undertaken when Yoseki-ckiku Seido (the FAR zoning) was actually applied to Tokyo Wards Area, it was estimated in accordance with trend that the gross building floor space in the 23 Wards Area would increase by about 2.1 times from 1960, with the floor space of private sector reaching 25,660 ha and the total, with floor space of public sector included, reaching 29,300 ha. This amount was then distributed among each of zones corresponding to designated floor area ratio [Table -2]. Although these figures are based on the assumption that the road development programme has been implemented, the distribution of gross floor area is relatively much more to urban centers and subcenters at the forcible request of developers and estate corporatoins. The research results, which said the permissible gross floor area of urban centers is 1.8 times greater than in 1960, suggest that these distribution are problematic.

The actual gross floor space of 23 wards area in 1985 reached 29,126 ha for taxable buildings, and increases to 32,798 ha in 1990. Moreover, when comparison is made on the basis of use of floor space by application, we find that with respect to office function, an excess of floor space over estimated limit is severe. Furthermore, road development viewed in term of road area percentage, increases no more than 1.2 times from 1963. From this, we can conclude that the status of building floor space concentration on Tokyo at present, greatly exceeds the status assumed for the purposes of planning [Fig -4].
(3) Evils by concentration:
The points mentioned above are indeed persuasive, but it can be countered that Tokyo still functions as an attractive and energetic city. In answer to this counter argument, it must be emphasized that if conditions continue in Tokyo as at present, a situation similar to that in 1973 will inevitably arise, and it could evolve into a grave crisis in the 1990s.

This argument based on the limit on concentration of population and urban functions, from the standpoint of evils to urban activities and urban life as argued in interim inspection of the Sin Zen-so (new CNDP). In reports by the Committee on the Problem of Concentration in Tokyo of TMG, it was forecasted that grave problems will arise from such issues as waste disposal, electric power supply, commuter transportation, road traffic, parking spaces and air pollution (Shuchu-1, 1990). Within the service area of Tokyo Electric Power Co., already in 1990 the demand for electric power outstripped the capacity for electric power supply, and although conditions have been relieved by favorable whether in 1991 i. e. low temperature and rainy, the possibility of a major power failure still remains. As for waste disposal, it is forecasted that the waste burial sites will soon be filled up and already in the Koto Ward of Tokyo, the authorities have suggested the possibility of another ‘garbage war’ erupting.

6-2. Dual structure in impact of concentration

In considering the history of Tokyo and urban planning as a whole, I have identified a unique characteristic in the form of an “ever recurring dual structure” (Ishida, 1991-a). This stems from the fact that in the first year of Meiji Era, Tokyo had inherited a multilayered dual structures from the urban structure of the Edo period. Thereafter in the course of growth, the urban center and subcenters were repeatedly improved, but residential districts and mixed aread of commercial and residential land use or industrial and residential land use were either excluded from improvement or newly formed on the basis of inadequate urban infrastructures. As a result, the inherited dual structure from Edo period underwent a transformation and new dual structures were generated, thus the urban dual structures have been ever recurring up to the present.

The same things can be said about problems recently arising from and countermeasures taking for the concentration of population and urban functions in large cities.

The accumulation of business functions at urban centers and the uni-polarization urban structure have produced inconsistencies with preparation of infrastructure and have caused many problems such as road traffic congestion at urban centers and inadequate means of transportation for commuters. And some countermeasures for solving these problems have been carried out. However, the effects of countermeasures are often of a dual character. For example, if some progress has been made in augmenting the means of commuter transportation, the effect has been to greatly improve the attractiveness of the urban center for corporations located there, and to greatly enhance the profitability of development in this area. However, as there is almost no improvement in rate of congestion and as average commuting distance inevitably increase, the ‘progress’ brings about a drop in the standard of living for the people who commute to the urban center, since they must endure congestion for long time periods
and since they have less free time in their daily lives. We can not afford to overlook the fact that construction and improvement of commuter transportation facilities always predicated on assumption of a congestion rate of 200%. In this process, a dual structure consisting of higher functional efficiency of urban center and poorer standard of daily urban life is reproduced.

Consequently, in discussing the evils brought about by uni-polarization, we cannot simply look at the problem from the standpoint of improving conditions in general. We must consider the problem from the standpoint of eliminating this dual structure. In other words, for Tokyo, the capital of Japan, with its economic capacity, it is not enough simply to eliminate the evils of concentration; other fundamental problems, such as development and improvement of residential environments to facilitate living standards which should have already been met, amelioration of commuter traffic conditions and improvement of urban scenery and amenities, must be taken up.

However, as new waves of concentration are advancing, steps are being taken to further improve the effectiveness of urban functions in response, but the issues pertaining to urban residents are thus being ignored.

7. Toward Growth Management Policy for Tokyo

7-1. Concentration control and growth management

In considering the growth management policy for Tokyo, the first step is to take a policy of controlling concentration or moratorium of growth. It is also essential to impose appropriate levy to the corporations and landowners who are already receiving external economies and earning profits from facilities constructed and services supplied in the past to accommodate concentration.

The dispersion policy followed up to the present, exclusive of the Act for Restricting Industry in Urbanized Area of the Capital Region in 1959, is mainly one of developing new urban areas for receiving dispersed urban functions. In line with this policy, weak land use and low -level urban functions not needed in urban centers have been dispersed and replaced by intensive land use and high-level urban functions, and as a result concentration has been exacerbated.

Even if the policy for Tokyo’s growth will be not simply one of restricting growth but one of continuing management of growth, it is inevitable that the policy of non interference with growth as practiced up to the present must be reexamined and replaced once with a policy of strict restriction on growth; that is moratorium of growth. It is only when such a policy has been inaugurated that growth management policy becomes possible.

Two approaches can be considered for restricting growth.

The first pertains to fiscal tax policy. The tax burden should be put upon the private corporations that are already obtaining external economies from concentration. In the “Report of the 2010 Committee on Community and Housing” by the Planning Bureau, Economic
Planning Agency, it was proposed that tax or levy on office floor space would be introduced. It was also argued that the corporation tax should be heavier in Tokyo Metropolis than in the outlying districts and in the rural regions so as to promote dispersion. If the corporation tax burden is increased beyond the traditional level in Tokyo, it will mean that a great tax burden is expected in conjunction with acquisition of external economies.

The second approach involves urban planning methodology. The most direct approach is to reduce floor area ratio (FAR) by down zoning. In a survey of American cities, it was found that down zoning takes place as a tool of growth management policy in 12 of the 15 cities surveyed. In the case of Tokyo, it is believed that 'down zoning' should be take place as the necessary and precedent condition of some other measures of growth management, because the most important factor behind the abnormal concentration on Tokyo has been 'over zoning' in urban planning.

7-2. What is the target of growth management?

Efforts to grapple with the problems caused by concentration were first begun by a "Project Team for Balanced Urban Development", chaired by the vice-governor of TMG when it was created in the early summer of 1991. What is the balanced urban development targeted here? No doubt the Project Team has been established in full awareness of the fact that the urban problems in Tokyo originate from its highly unbalanced urban structure in which offices are concentrated in the city center while residences and population diminish as one goes further out from the city center [Fig - 5].

![Fig - 5 Employment Population/Residential Population](image-url)
Yet even in considering a restoration of balance, it would, of course, be unrealistic to target a ratio of 1.0 between work place working population and dwelling place working population for Tokyo Wards Area. Even for the Tokyo Metropolitan Region, this is difficult issue. The extent of balance appropriate for each area is indeed a nebulous issue.

Another question to consider is whether restoration of balance should take place in conjunction with growth restriction or in the course of growth. At any rate, regardless of which method is selected, it is the frank opinion of those involved in urban planning that, in order to control growth and to restore at least some degree of balance, down zoning or some other method of restricting growth in Tokyo must be implemented.

7-3. Japanese style urban planning for growth management

The Basic Land Act was proclaimed at the end of 1989. Thereafter, with revision of taxation system, a new tax, namely ’Chika-Zei (land value tax)’, was introduced. Moreover, it was decided that agriculture lands within urbanization promotion area should be divided into two categories, namely, areas where farming is preserved and areas where land use will be changed from agriculture into urban land use. For the latter category, a system of “Takuchi-nami Kazei (system for levying taxes at the same rate as for original building sites)” will be surely applied. This demarcation work has been inaugurated and expected to be completed by the end offiscat 1991.

Since financing to real estate companies, developers and construction industries has been curtailed, the prices of land in the Tokyo Metropolitan Region have been falling downward from an erstwhile level trend. The explosive boom on the construction of office buildings in Tokyo has also seemed to taper off. Given these conditions, there is a tendency to think that land policy is no longer as urgent as in the past. Again, some people argued that the land problem will be resolved by an increase of supply. And in discussing renovation of the urban planning system in light of the Basic Land Act, it is argued by some that the goal of policy should be to promote high-level utilization of land.

In the case of Tokyo, however, it is crucial to restrict growth as much as possible and then to formulate policies for growth management on the basis of this initial effort.

I have proposed a new concept of the right to land utilization and a new system of land use planning.

According my concept, the right to land utilization should be divided into four stratum. The first stratum is refers to as the right to non-urban land use. The second stratum, accruing from the ownership of individual building plot, should be limited to the extent that it does not have a significant environmental impact on utilization of adjacent land and dose not impose an excessive burden on urban infrastructures. And I defined land use based the second stratum of the right to land utilization as ‘Kihon Tochi-riyo (bassic land utilization)’. The fourth stratum of the right to land utilization is the extent which beyond the environmental threshold and any development utilizing this extent should not be permitted except the case which works in the high interests of the public and is sufficiently adjustable with the master plan and the developer of which is ready to bear heavy levy for improving urban infrastructures. This
This exceptional case of land utilization is defined as ‘Ko-teki Reigai-teki Tochi-riyo (public and exceptional land utilization)’. The third stratum of the right to land utilization is, accordingly, defined as the extent beyond the second stratum and within the environmental threshold. Land utilization based on the right of third stratum, which is defined as ‘Kyodo-teki Tochi-riyo (communal land utilization)’, should be confined to cooperative or communal utilization only and not permissible for individual land owner. Using the land utilization right of third stratum accompanies a suitable burden for preservation of the environment and for improvement of local public facilities.

The outline of proposed land use planning system is as follows [Ishida 1987;1990-b] [Fig-6]:
(a) Under present-day urban planning in Tokyo, almost all case of designated FAR allowed land utilization far exceeds the limit defined as the ‘basic land utilization’. This is regarded as nothing but ‘over zoning’. Therefore, to designate the extent of ‘basic land utilization’ of all the areas of Tokyo and to restrict land utilization allowed for each building plot to this level is referred to as “Japanese style down zoning”.
(b) Building activities within the limit of ‘basic land utilization’ would be authorized by ‘Kenchiku-Kakunin Seido (building inspection system)’.
(c) The scope of communal land utilization using the third stratum of right is exhibited through the formulation of ‘Chiku-shosai-Keikaku (detailed district plan)’, and individual land use should be strictly controlled by a system of development permission, according to the...
detailed district plan. The system of 'Chiku-shosai-Keikaku' is not the same as old 'Chiku-Keikaku (district plan)' enforced in 1980, but is resembling to the German Bebauungsplan system.

In this way, it is hoped that overall planning control over urban growth can be realized. The Research Committee on Concentration Problem in Tokyo proposed the introduction of my planning concept in the form of a 'Kaiso-Yoseki-sei (classified FAR system)' to areas designated as having a FAR in excess of 400% (Shuchu-1, 1991). Originally, however, my idea (stratified land use regulation system) was intended to apply to all forms of urban land utilization. The idea can be applied, not simply in term of FAR, but also with respect to another land use factors such as building categories and building height limitation.

As a planning system, the idea of 'Yudo-Yoseki-sei (incentive FAR system)' which is being investigated by the Central Urban Planning Council seems to resemble my idea. However, the former, which is a system to freeze land utilization in term of FAR provisionally to a level now utilized and to promote to elevate it to the designated limit by many incentive method and by the method of transfer of development right (TDR), is based on the idea that land owners are obligated to utilize their land up to the limits currently designated for land utilization. In ideological terms, the two planning systems are completely different. The system I proposed is conceived for controlling Tokyo's growth and aims to create a tool of growth management. The Central Urban Planning Council's system, on the contrary, seems to be conceived for realizing a ultra high level land utilization and aims to create a tool for unrestricted urban growth.

Nevertheless, it is not easy to obtain consent from land owners to introduce the so-called down zoning method. In a sense, therefore, an ideological reformation among urban residents is required.

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